REMARKS

The present application stands with pending claims 1-30 where claims 1, 13, 15, 19, 22, 23, 26, 29 and 30 are independent. Applicant herein amends claims 1, 13, 15, 19, 22, 23, and 26 as recited in the appendices.

As a preliminary matter, Applicant thanks the Examiner for indication that claim 29 is allowable and claims 8-10 include allowable subject matter. Applicant added claim 30 as recited in the appendices to place claim 8 in independent form.

Claims 1, 3-7, 13, 15-20, 22 and 23-25 stand rejected under 35 U.S.C. §102(b) as being anticipated by Tietz (U.S. 3,218,785). In response, first Tietz does not disclose or suggest a female coupling as recited in claims 1, 13, 15, 19, 22, and 23. Instead, Tietz discloses an upper section 12 of a housing. This upper section 12 is a closed cap and in no way can be construed to be a coupling when reasonably defined. The Examiner appears to state that the pocket 32 for receiving projections 42 is itself a coupling. This is a completely unreasonably stretched definition of "coupling." A coupling as defined in the specification and as known to one skilled in the art refers to a piece or structure that couples things together such as a tube or pipe. In no way can an end cap 12 as shown in Tietz reasonably be called a coupling. To do so impermissibly ignores the fact that an obviousness rejection is required here with a showing by the Examiner that the upper section 12 of the housing in Tietz must first be modified to form a coupling to derive the female coupling of the present invention. Since no showing of this kind is made, Tietz does not disclose or suggest the female coupling. For this reason alone, Applicant respectfully requests that the §102(b)

rejection of independent claims 1, 13, 15, 19, 22 and 23, and their depending claims 3-7, 14, 16-18, and 24-25 based on Tietz be withdrawn.

In addition, each of independent claims 1, 13, 15, 19, 22, and 23 as amended recite that the male coupling is metal. This amendment is included to emphasize that the polymeric female coupling must mate with a male coupling for fuel and radioactive settings and that the claimed configuration solves problems caused specifically by this metal to plastic connection. Tietz merely discloses that the housing pieces 12, 14 should be made of plastic and does not disclose or suggest a metal coupling connected to a polymeric coupling. For this additional reason, Applicant respectfully requests that the §102(b) rejection of independent claims 1, 13, 15, 19, 22 and 23, and their depending claims 3-7, 14, 16-18, and 24-25 based on Tietz be withdrawn.

Claims 1, 3-7, 13, 15-20, 22 and 23-28 stand rejected under 35 U.S.C. §102(b) as being anticipated by Terhune (U.S. 5,045,192). In response, Terhune also does not disclose or suggest using a metal coupling attached to a polymeric coupling. In fact, Terhune specifically teaches away from this design by using a plastic adapter 14 to attach a plastic filter 12, 38 to a metal tank 16, 18. Terhune teaches the plastic adapter 14 should be used instead of a male metal coupling as recited in claims 1, 13, 15, 19, 22, 23 and 26. To change the material, which is one of the important teachings of the invention, is to destroy part of the function and teaching of Terhune, which is impermissible. For this additional reason, Applicant respectfully requests that the §102(b) rejection of independent claims 1, 13, 15, 19, 22, 23 and 26, and their depending claims 3-7, 14, 16-18, 24-25 and 27-28 based on Terhune be withdrawn.

Claims 1, 3-6-11-13, 15-20, 22 and 23-28 stand rejected under 35 U.S.C. §102(b) as being anticipated by Petrucci et al. (EP 0 231 862). In response, Applicant first traverses because Petrucci is not in an analogous field as the present invention. The present invention, as now recited in the claims, is directed to the field of fuels and radioactive materials where it is dangerous to expose such materials to humans, and therefore the time for coupling and uncoupling is critical. In contrast, Petrucci is merely related to the beverage or soda field. No fossil fuel or nuclear plant engineer would think to look toward the beverage industry to determine a coupling design.

In addition, Petrucci merely discloses connection between a plastic canister 14 and a plastic head 12. It does not disclose or suggest a male metal coupling attached to a polymeric female coupling as recited in the claims. For these reasons, Applicant respectfully requests that the §102(b) rejection of independent claims 1, 13, 15, 19, 22, 23 and 26, and their depending claims 3-7, 14, 16-18, 24-25 and 27-28 based on Petrucci be withdrawn.

Claims 2, 14 and 21 stand rejected under 35 U.S.C. §103 as being unpatentable over Terhune in view of Mansfield (U.S. 3,760,951). In response, Applicant respectfully traverses by repeating the arguments from above to overcome the §102(b) rejection of Petrucci and expands them to include Mansfield. Specifically, Petrucci is not from the fuel and radioactive arts as discussed above and neither is Mansfield. Mansfield merely discloses a filter for water and has nothing to do with technology or arts, such as fuels or radioactive materials, that are dangerous to humans. For this reason alone, Applicant respectfully requests that the §103 rejection of claims 2, 14 and 21 be withdrawn.

In addition, Mansfield also does not disclose a metal or stainless steel male coupling. Instead, Mansfield discloses a plastic sleeve 18 with only metal pins and never specifically mentions stainless steel as the metal (col. 3, lines 27-30 of Mansfield). This does not disclose or suggest a metal or stainless steel male coupling that is required in the fuel and radioactive arts. For this additional reason, Applicant respectfully requests that the §103 rejection of claims 2, 14 and 21 be withdrawn.

Finally, no motivation exists to modify the structure of Petrucci with the teachings of Mansfield. The Examiner cannot just state that Mansfield teaches the materials of the couplings and ignore the remaining teachings of Mansfield. The Examiner must look to all that Mansfield teaches. Accordingly, Petrucci teaches a single piece top 56 with integrally formed tabs 58, 60. Nothing exists in the two references to teach how the tabs 58, 60 in Petrucci can be made of metal as in Mansfield while the remainder of the top 56 in Petrucci is plastic. Nor can it be seen how the particular structure in Petrucci can be changed so that the tabs 58, 60 extend inward instead of outward as in Mansfield. No motivation exists to combine Petrucci and Mansfield by modifying Petrucci with at least these teachings of Mansfield. For this additional reason, Applicant respectfully requests that the §103 rejection of claims 2, 14 and 21 be withdrawn.

The Director is hereby authorized to charge any fees associated with the filing of this Amendment to Deposit Account No. 18-2284 of Piper Rudnick, duplicate copy attached.

For all of the above reasons, Applicant requests reconsideration and allowance of all of the pending claims. The Examiner should contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

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APPENDIX A

MARKED-UP VERSION OF AMENDED CLAIMS SHOWING CHANGES MADE INCLUDING NEWLY ADDED CLAIMS

Please amend claims 1, 13, 15, 19, 22, 23 and 26 as follows:

1. (Amended) A coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a metal male coupling secured to one of said fluid conduit and said filter element, said male coupling having at least two radially projecting tabs; and

a polymeric female coupling engaged with said male coupling for securing said filter element on said fluid conduit, said female coupling having lands for receiving said tabs,

said male and female couplings each having a passageway for fluid, said passageways defining an axial direction,

each said tab being configured for distributing an axial force generally throughout said tab and laterally relative said axial direction so that either of said land being forced against said tab or said tab being forced against said land does not damage said female coupling and said filter element remains secured to said fluid conduit.

2. The coupling device according to claim 1, wherein said male coupling is directly secured to said fluid conduit and is stainless steel.

3. The coupling device according to claim 1, wherein said lands are generally flat and said tabs have generally flat surfaces for engaging said lands, said flat surfaces having predetermined surface areas for distributing said axial force throughout said flat surfaces.

4. The coupling device according to claim 3, wherein said male coupling defines an outer cylindrical surface having a circumference, and wherein said tabs are generally elongated along said circumference.

5. The coupling device according to claim 3, wherein said flat surfaces are generally normal to said axial direction.

6. The coupling device according to claim 1, wherein said lands of said female coupling generally extend in planes perpendicular to said axial direction.

7. The coupling device according to claim 1, wherein said tabs and said lands are configured and disposed on said female and male couplings so that one said coupling is stationary and the other said coupling is rotated at most approximately 1/6 of a full rotation on said stationary coupling to fully engage said lands on said tabs.

8. The coupling device according to claim 1, wherein said male coupling has a first portion with an outer surface having a first outer diameter configured for fitting within said female coupling and a second portion configured for securing onto said fluid conduit

and having a second outer diameter larger than said first outer diameter, and a ledge connecting said first and second outer diameters; and

the coupling device further comprising a biasing means disposed on said ledge for biasing said land toward said tab,

wherein said axial force is at least partially formed by said biasing means.

9. The coupling device according to claim 8, wherein said female coupling includes a bottom edge, and wherein said biasing means has two opposing sides and is disposed between said bottom edge and said ledge so that said biasing means abuts said ledge on one said side and abuts said bottom edge on the other said side.

10. The coupling device according to claim 8, wherein said biasing means is a wavy washer mounted around said first portion and on said ledge.

11. The coupling device according to claim 1, wherein said male coupling has a first portion with a first surface of rotation, and said female coupling has a second surface of rotation opposing said first surface of rotation, said surfaces of rotation defining where said female coupling receives said male coupling; and

the coupling device further including a sealing element disposed between said first and second surfaces of rotation so that unfiltered material cannot enter said fluid conduit.

12. The coupling device according to claim 11, wherein said sealing element is an O-ring.

13. (Amended) A coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a male metal coupling having at least two radially extending tabs;

a polymeric female coupling having a land for engaging each said tab, said female coupling defining an axis, a circumference and an axially extending access channel continuous with a circumferentially extending land channel for receiving one of said tabs, wherein said land defines a surface of said land channel, and wherein said access channel is configured and disposed on said female coupling so that each said access channel receives one of said tabs, and either said access channels are first moved axially over said tabs and then said land channel is moved angularly over said tabs or said tabs are moved axially through said access channels and then moved angularly through said land channels in order to place said tabs on said lands.

14. The coupling device according to claim 13, wherein said male coupling is stainless steel, is secured to said fluid conduit, and includes flat mating surfaces on said tabs for engaging said lands, and wherein said female coupling is secured to said filter element and is configured so that said female coupling must be pushed axially toward said male coupling and then rotated to place said tabs in said land channels.

15. (Amended) A coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a first metal coupling having an exterior surface of rotation and at least two tabs projecting generally radially from said exterior surface, and defining a passageway for fluid

and defining an axial direction, each said tab having a flat mating surface with a predetermined surface area for distributing an axial force generally throughout said mating surface and laterally relative to said axial direction.

16. The coupling device according to claim 15, wherein said first coupling defines an inner core, said tabs not being joined by any crosspiece spanning said core.

17. The coupling device according to claim 15, wherein said tabs are integrally formed with said exterior surface or welded to said exterior surface.

18. The coupling device according to claim 15, further comprising a second coupling made of a polymeric material and having generally flat lands for mating with said tabs of said first coupling.

19. (Amended) A female coupling for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a polymeric body having a land for receiving a projection of a male metal coupling at a fully secured position, said female coupling defining an axis, a circumference and an axially extending access channel continuous with a circumferentially extending land channel, said land defining a surface of said land channel.

20. The female coupling according to claim 19, wherein said land is flat and elongated in at an angle to said axial direction for mating with a flat projection.

21. The female coupling according to claim 19, wherein the female coupling is secured to a filter element and said projection extends from a stainless steel male coupling secured to said fluid conduit.

22. (Amended) A coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a polymeric filter-side coupling attached to said filter element;

a metal conduit-side coupling attached to said fluid conduit and engaging said filter-side coupling;

a selected one of said filter-side coupling and said conduit-side coupling having at least two radially projecting tabs, and the corresponding other said coupling having lands for receiving said tabs,

wherein said filter-side coupling receives an axial force causing said lands and said tabs to press toward each other, and

wherein said filter-side coupling has either said lands or said tabs being configured for distributing said axial force laterally relative to said axial direction and generally through out said land or said tab so that said filter-side coupling is not damaged.

23. (Amended) A quick-connect coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a male metal coupling having generally radially projecting tabs; and

a polymeric female coupling having lands for mating with said tabs; and

means for twisting said filter element onto and engaging said couplings,

one of said couplings being part of said filter element, and said couplings being configured so that said couplings are fully engaged with each other with at most a single twist of said twisting means without said twisting means releasing and re-grasping said filter element and without releasing and re-grasping said twisting means.

24. The coupling device according to claim 23, wherein said coupling on said filter element is turned no more than approximately 1/6 of a single full turn to fully secure said female coupling to said male coupling.

25. The coupling device according to claim 23, wherein said tabs each have a flat mating surface with a predetermined surface area for distributing an axial force throughout said mating surface, said axial force received from said fluid flowing through said coupling.

26. (Amended) A method of rapid installment of a filter element on a fluid conduit for fuels or radioactive fluids, comprising the steps of:

grasping the end of the filter element;

moving the filter element axially for engaging a polymeric female coupling on a selected one of the filter element and the fluid conduit with a male metal coupling on the corresponding opposite one of the filter element and the fluid conduit, one of said couplings being a part of said filter element; and

twisting the filter element for twisting a selected one of said female coupling and said male coupling on said filter element for fully engaging said couplings to each other without releasing and re-grasping said filter element.

27. The method of rapid installment according to claim 26, wherein said twisting step includes twisting said filter element no more than approximately 1/6 to 1/4 of a single full turn to fully engage said couplings.

28. The method of claim 26, and further comprising the step of time-limiting an exposure of a worker to a toxic environment in which the fluid conduit is disposed.

29. A coupling device for attaching a filter element to a fluid conduit, comprising:

a male coupling formed around a first axis and having an attached end, a free end, an exterior side wall between the attached end and the free end, and a hollow core disposed interiorly of the exterior side wall, a portion of the exterior side wall adjacent the free end formed as a first surface of rotation, a plurality of tabs extending outwardly from said portion of the exterior side wall and angularly spaced apart from each other with respect to the first axis, each tab having an engaging face facing the attached end, said engaging face having a nonzero width at an angle to the first axis and subtending a nonzero arc about the first axis, the attached end being attached to a first pre-selected one of the filter element and the fluid source;

a female coupling formed of a polymeric material around a second axis and having an attached end, a free end, an interior side wall formed between the attached end and the free end, a portion of the interior side wall adjacent the free end formed generally as a second surface of rotation matable to the first surface of rotation, a plurality of access channels formed in the interior side wall from the direction of the free end of the female

coupling and longitudinally extending toward the attached end thereof, each access channel adapted to receive a respective tab of the male coupling element and having an end opposite said free end which terminates in a groove formed in the interior side wall which extends at an angle from the respective access channel and subtending a predetermined arc with respect to the second axis, a land of the groove facing the attached end of the female coupling adapted to receive a respective one of said engaging faces of the tabs, the land having an area, the attached end of the female coupling attached to a second pre-selected one of the filter element and the fluid conduit; and

means for axially biasing the filter element relative to the fluid conduit such that an axial force is created pushing the filter element away from the fluid conduit, the axial force being distributed on the areas of the lands and on the engaging faces of the tabs.

30. (New) A coupling device for connecting a filter element to a fluid conduit, comprising:

a male coupling secured to one of said fluid conduit and said filter element, said male coupling having at least two radially projecting tabs; and

a polymeric female coupling engaged with said male coupling for securing said filter element on said fluid conduit, said female coupling having lands for receiving said tabs,

said male and female couplings each having a passageway for fluid, said passageways defining an axial direction,

each said tab being configured for distributing an axial force generally throughout said tab and laterally relative said axial direction so that either of said land being forced

against said tab or said tab being forced against said land does not damage said female coupling and said filter element remains secured to said fluid conduit,

wherein said male coupling has a first portion with an outer surface having a first outer diameter configured for fitting within said female coupling and a second portion configured for securing onto said fluid conduit and having a second outer diameter larger than said first outer diameter, and a ledge connecting said first and second outer diameters; and

the coupling device further comprising a biasing means disposed on said ledge for biasing said land toward said tab,

wherein said axial force is at least partially formed by said biasing means.

APPENDIX B

CLEAN VERSION OF THE PENDING CLAIMS

1. A coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a metal male coupling secured to one of said fluid conduit and said filter element, said male coupling having at least two radially projecting tabs; and

a polymeric female coupling engaged with said male coupling for securing said filter element on said fluid conduit, said female coupling having lands for receiving said tabs,

said male and female couplings each having a passageway for fluid, said passageways defining an axial direction,

each said tab being configured for distributing an axial force generally throughout said tab and laterally relative said axial direction so that either of said land being forced against said tab or said tab being forced against said land does not damage said female coupling and said filter element remains secured to said fluid conduit.

2. The coupling device according to claim 1, wherein said male coupling is directly secured to said fluid conduit and is stainless steel.

3. The coupling device according to claim 1, wherein said lands are generally flat and said tabs have generally flat surfaces for engaging said lands, said flat surfaces having predetermined surface areas for distributing said axial force throughout said flat surfaces.

4. The coupling device according to claim 3, wherein said male coupling defines an outer cylindrical surface having a circumference, and wherein said tabs are generally elongated along said circumference.

5. The coupling device according to claim 3, wherein said flat surfaces are generally normal to said axial direction.

6. The coupling device according to claim 1, wherein said lands of said female coupling generally extend in planes perpendicular to said axial direction.

7. The coupling device according to claim 1, wherein said tabs and said lands are configured and disposed on said female and male couplings so that one said coupling is stationary and the other said coupling is rotated at most approximately 1/6 of a full rotation on said stationary coupling to fully engage said lands on said tabs.

8. The coupling device according to claim 1, wherein said male coupling has a first portion with an outer surface having a first outer diameter configured for fitting within said female coupling and a second portion configured for securing onto said fluid conduit and having a second outer diameter larger than said first outer diameter, and a ledge connecting said first and second outer diameters; and

the coupling device further comprising a biasing means disposed on said ledge for biasing said land toward said tab,

wherein said axial force is at least partially formed by said biasing means.

9. The coupling device according to claim 8, wherein said female coupling includes a bottom edge, and wherein said biasing means has two opposing sides and is disposed between said bottom edge and said ledge so that said biasing means abuts said ledge on one said side and abuts said bottom edge on the other said side.

10. The coupling device according to claim 8, wherein said biasing means is a wavy washer mounted around said first portion and on said ledge.

11. The coupling device according to claim 1, wherein said male coupling has a first portion with a first surface of rotation, and said female coupling has a second surface of rotation opposing said first surface of rotation, said surfaces of rotation defining where said female coupling receives said male coupling; and

the coupling device further including a sealing element disposed between said first and second surfaces of rotation so that unfiltered material cannot enter said fluid conduit.

12. The coupling device according to claim 11, wherein said sealing element is an O-ring.

13. A coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a male coupling having at least two radially extending tabs;

a polymeric female coupling having a land for engaging each said tab, said female coupling defining an axis, a circumference and an axially extending access channel

continuous with a circumferentially extending land channel for receiving one of said tabs, wherein said land defines a surface of said land channel, and wherein said access channel is configured and disposed on said female coupling so that each said access channel receives one of said tabs, and either said access channels are first moved axially over said tabs and then said land channel is moved angularly over said tabs or said tabs are moved axially through said access channels and then moved angularly through said land channels in order to place said tabs on said lands.

14. The coupling device according to claim 13, wherein said male coupling is stainless steel, is secured to said fluid conduit, and includes flat mating surfaces on said tabs for engaging said lands, and wherein said female coupling is secured to said filter element and is configured so that said female coupling must be pushed axially toward said male coupling and then rotated to place said tabs in said land channels.

15. A coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a first coupling having an exterior surface of rotation and at least two tabs projecting generally radially from said exterior surface, and defining a passageway for fluid and defining an axial direction, each said tab having a flat mating surface with a predetermined surface area for distributing an axial force generally throughout said mating surface and laterally relative to said axial direction.

16. The coupling device according to claim 15, wherein said first coupling defines an inner core, said tabs not being joined by any crosspiece spanning said core.

17. The coupling device according to claim 15, wherein said tabs are integrally formed with said exterior surface or welded to said exterior surface.

18. The coupling device according to claim 15, further comprising a second coupling made of a polymeric material and having generally flat lands for mating with said tabs of said first coupling.

19. A female coupling for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a polymeric body having a land for receiving a projection of a male metal coupling at a fully secured position, said female coupling defining an axis, a circumference and an axially extending access channel continuous with a circumferentially extending land channel, said land defining a surface of said land channel.

20. The female coupling according to claim 19, wherein said land is flat and elongated in at an angle to said axial direction for mating with a flat projection.

21. The female coupling according to claim 19, wherein the female coupling is secured to a filter element and said projection extends from a stainless steel male coupling secured to said fluid conduit.

22. A coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a polymeric filter-side coupling attached to said filter element;

a metal conduit-side coupling attached to said fluid conduit and engaging said filter-side coupling;

a selected one of said filter-side coupling and said conduit-side coupling having at least two radially projecting tabs, and the corresponding other said coupling having lands for receiving said tabs,

wherein said filter-side coupling receives an axial force causing said lands and said tabs to press toward each other, and

wherein said filter-side coupling has either said lands or said tabs being configured for distributing said axial force laterally relative to said axial direction and generally through out said land or said tab so that said filter-side coupling is not damaged.

23. A quick-connect coupling device for fuels or radioactive fluids for connecting a filter element to a fluid conduit, comprising:

a male coupling having generally radially projecting tabs; and

a polymeric female coupling having lands for mating with said tabs; and

means for twisting said filter element onto and engaging said couplings,

one of said couplings being part of said filter element, and said couplings being configured so that said couplings are fully engaged with each other with at most a single twist of said twisting means without said twisting means releasing and re-grasping said filter element and without releasing and re-grasping said twisting means.

24. The coupling device according to claim 23, wherein said coupling on said filter element is turned no more than approximately 1/6 of a single full turn to fully secure said female coupling to said male coupling.

25. The coupling device according to claim 23, wherein said tabs each have a flat mating surface with a predetermined surface area for distributing an axial force throughout said mating surface, said axial force received from said fluid flowing through said coupling.

26. A method of rapid installment of a filter element on a fluid conduit for fuels or radioactive fluids, comprising the steps of:

grasping the end of the filter element;

moving the filter element axially for engaging a polymeric female coupling on a selected one of the filter element and the fluid conduit with a male coupling on the corresponding opposite one of the filter element and the fluid conduit, one of said couplings being a part of said filter element; and

twisting the filter element for twisting a selected one of said female coupling and said male coupling on said filter element for fully engaging said couplings to each other without releasing and re-grasping said filter element.

27. The method of rapid installment according to claim 26, wherein said twisting step includes twisting said filter element no more than approximately 1/6 to 1/4 of a single full turn to fully engage said couplings.

28. The method of claim 26, and further comprising the step of time-limiting an exposure of a worker to a toxic environment in which the fluid conduit is disposed.

29. A coupling device for attaching a filter element to a fluid conduit, comprising:

a male coupling formed around a first axis and having an attached end, a free end, an exterior side wall between the attached end and the free end, and a hollow core disposed interiorly of the exterior side wall, a portion of the exterior side wall adjacent the free end formed as a first surface of rotation, a plurality of tabs extending outwardly from said portion of the exterior side wall and angularly spaced apart from each other with respect to the first axis, each tab having an engaging face facing the attached end, said engaging face having a nonzero width at an angle to the first axis and subtending a nonzero arc about the first axis, the attached end being attached to a first pre-selected one of the filter element and the fluid source;

a female coupling formed of a polymeric material around a second axis and having an attached end, a free end, an interior side wall formed between the attached end and the free end, a portion of the interior side wall adjacent the free end formed generally as a second surface of rotation matable to the first surface of rotation, a plurality of access channels formed in the interior side wall from the direction of the free end of the female coupling and longitudinally extending toward the attached end thereof, each access channel adapted to receive a respective tab of the male coupling element and having an end opposite said free end which terminates in a groove formed in the interior side wall which extends at an angle from the respective access channel and subtending a predetermined arc with respect

to the second axis, a land of the groove facing the attached end of the female coupling adapted to receive a respective one of said engaging faces of the tabs, the land having an area, the attached end of the female coupling attached to a second pre-selected one of the filter element and the fluid conduit; and

means for axially biasing the filter element relative to the fluid conduit such that an axial force is created pushing the filter element away from the fluid conduit, the axial force being distributed on the areas of the lands and on the engaging faces of the tabs.

30. A coupling device for connecting a filter element to a fluid conduit, comprising:

a male coupling secured to one of said fluid conduit and said filter element, said male coupling having at least two radially projecting tabs; and

a polymeric female coupling engaged with said male coupling for securing said filter element on said fluid conduit, said female coupling having lands for receiving said tabs,

said male and female couplings each having a passageway for fluid, said passageways defining an axial direction,

each said tab being configured for distributing an axial force generally throughout said tab and laterally relative said axial direction so that either of said land being forced against said tab or said tab being forced against said land does not damage said female coupling and said filter element remains secured to said fluid conduit,

wherein said male coupling has a first portion with an outer surface having a first outer diameter configured for fitting within said female coupling and a second portion configured for securing onto said fluid conduit and having a second outer diameter larger

than said first outer diameter, and a ledge connecting said first and second outer diameters; and

the coupling device further comprising a biasing means disposed on said ledge for biasing said land toward said tab,

wherein said axial force is at least partially formed by said biasing means.